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*The individual classification of each article in this Review is given at the end of the article. The cut-off date for research on all articles was 1 November 1958.

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HUNGARIAN CARTOGRAPHY: 1958

Introduction

The geodetic and cartographic competence of any country contributes basically to the military capability of that country. Therefore, activities related to the establishing of a common datum and mapping system in the USSR and the European Soviet Bloc become a matter of intelligence concern since uniform mapping affects the possible military operations of these countries -- including missile operations. The need for uniform mapping based on one geodetic datum has long been recognized by the USSR and a long-range program to satisfy this need in regard to the Satellites was initiated at the Sofia Conference in 1952.* At that time, the Soviet Union imposed upon the Satellites a geodetic and cartographic program that, when completed, will extend a geodetic and mapping system providing modern positioning accuracies for ground and air operations westward into central Europe. A review of the current status of that program in one Bloc country, Hungary, may serve to indicate the effectiveness of Soviet control of mapping in all the Satellites.

Hungarian cartographic capabilities were high prior to World War II and remained so until the late years of the war. The removal

*An article on the Sofia Conference appeared in the Geographic Intelligence Review, CIA/RR-MR-41, July 1954, p. 1-8. Secret.

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of survey data and map plates by both German and Soviet personnel at the end of World War II and the subsequent loss of this material, together with the loss of personnel and production equipment, restricted Hungarian cartographic efforts for several years. Since about 1950, however, cartographic competence has been improving and is currently capable of executing any normal cartographic programs.

Although such programs are of interest to many members of the intelligence community, information related to Hungarian mapping activities -- especially to topographic mapping and cartographic organizations -- has been scanty and has been slow in reaching the West. [redacted] 25X1C

25X1C [redacted] Their reports supplemented and corroborated articles in available journals. The information in the report, if used in conjunction with other current intelligence, may be useful in estimating the progress of the USSR-imposed cartographic programs in the other Satellite countries, since the organization, programs, and problems characteristic of Hungarian cartography are undoubtedly similar to those in the other Satellites.

Major Mapping Agencies

Surveying and mapping in Hungary, which was formerly performed by various departments within the government or by private firms, are now centralized under strict governmental control. Two staff organizations -- the Military Cartographic Institute and the State

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Surveying and Cartographic Bureau -- which are probably coordinated at the Council of Ministers level, are unifying all geodetic and cartographic production in Hungary.

The Military Cartographic Institute (Honvéd Térképészeti Intézet; HTI)*, subordinate to the Main Mapping Directorate (Térképészeti Főcsoport Főnökség) in the Ministry of Defense, is responsible for all military topographic mapping. The HTI plans, coordinates, and directs the execution of all military mapping programs that are presented to it by the Main Mapping Directorate; and also does all the actual field work, compilation, drafting, and printing necessary for the production of required maps. In the execution of current programs, the HTI may delegate certain functions to civilian government agencies through the authority of the civilian state bureau. Prior to the 1956 uprising, the HTI had approximately 600 employees who were distributed among a staff and 6 organizational divisions having duties and functions comparable to those of any mapping organization (see Chart 27243). Although a geodetic division is shown on the organizational chart, the HTI responsibility for producing geodetic data is somewhat ambiguous. According to pre-1956 reports, a geodetic division of the HTI was either abolished in 1953, or was temporarily amalgamated with the civilian Budapest Geodetic and Cartographic Enterprise (see BGTV, below) when the 1953 geodetic

*Headquarters are at 7-9 Malinovszki (formerly Olasz) Fasor, Budapest II.

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survey of Hungary was initiated. All geodetic data needed by the HTI are currently made available by the civilian unit.

The State Surveying and Cartographic Bureau, (Állami Földmérési és Térképészeti Hivatal; AFTH)*, which was established by a ministerial decree in 1952 and given an independent status under the Council of Ministers, is charged with coordinating all civilian mapping activities in Hungary. Coordination is effected through direct control over subordinate enterprises and a working arrangement with other government offices or institutes that engage in the production of maps or in surveying (see Chart 27243). Since its inception, the status of the AFTH has been strengthened and broadened by additional decrees such as the one of 1 January 1957 that returned the duties of land registration to the AFTH from the Ministry of Finance, to which they had been transferred some years before. AFTH now controls all surveying as well as all civilian mapping at both national and local governmental levels.

The Budapest Geodetic and Cartographic Enterprise (Budapesti Geodéziai és Térképészeti Vállalat; BGTV)**, which has a complement of approximately 500 employees, is the principal mapping subordinate of the AFTH. Organizationally, it is comparable to the HTI and engages in all activities necessary for publishing finished maps (see Chart 27243). The geodetic division, which has three subordinate branches,

*Headquarters are at 19 Guszev utca, Budapest V.
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conducts all geodetic surveys in Hungary. A Geodetic Data (Geodéziai Adattár) section is the repository of all geodetic data, and makes such data available upon request to government ministries, civilian enterprises, and the HTI.

Other governmental mapping agencies that come under the direct jurisdiction of the AFTH include the Cartographic Enterprise (Kartográfiai Vállalat)* which produces atlases and school maps; and also administrative, tourist, and road maps, and city plans. Using data supplied by the BGTV and AFTH, the Cartographic Enterprise also compiles and drafts maps that are classified for reasons of security. On the county (megye) and district (jaras) level, county survey branches and district land-registration offices, also under the direct supervision of the AFTH, do cadastral mapping at a scale of 1:1,000.

The AFTH can exercise some control over all maps published in Hungary; although, for maps published by agencies not directly subordinate to the AFTH, such control may be limited to setting priorities at the Offset-Printing enterprise (Offset-Nyomda, see Chart 27243)**, which is responsible for the reproduction of all civilian maps. The AFTH maintains a working relationship that includes the exchange of some data with all government organizations engaged in civilian mapping and surveying. The Agricultural Planning

*Headquarters are at 25 Guszev utca, Budapest V.
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(AGROTERV) office and the section dealing with water conservation in the Ministry of Agriculture make large-scale maps, primarily at the scale of 1:1,000, for their own use. Since 1:1,000 is the scale currently used for cadastral mapping, it is assumed that some sheets, or at least compiled data, are interchangeable. Requests may be levied by the AFTH on government offices for survey data in their particular areas; for example, requests for road data from the Ministry of Transportation. The amount of supervision that the AFTH exerts over the National Directorate of Geology (Országos Földtani Főigazgatóság; OFF)* -- established by ministerial decree in 1955 to unify, plan and direct mineral research and conduct geological surveys -- is unknown. Through the State Geological Institute (Magyar Állami Földtani Intézet)**, the OFF recently published a geologic map of Hungary at 1:300,000 and has a 1:200,000 map in preparation. The latter is undoubtedly planned to tie in with similar maps at 1:200,000 being prepared in the other Satellites since 1:200,000 was the basic scale set at the Geological Conference of Western Peoples' Democracies and the USSR, which was originally convened in Prague in October 1955 and was continued in Warsaw in April 1956.

Mapping Programs

The chief Hungarian mapping programs under way are the program presented to the Satellites by the USSR at the Sofia Conference in

*Headquarters are at 13 Iskola utca, Budapest I.
**Headquarters are at 14 Vorosilov út, Budapest XIV.

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1952 and the production of a large-scale series for economic planning. By far the greater emphasis is being placed upon the USSR program that, when completed, will provide uniform coverage of Hungary at all USSR standard scales: 1:25,000; 1:50,000; 1:100,000; 1:200,000; and 1:500,000. All the map series are based on the Krasovskiy ellipsoid, the Pulkovo 1942 datum, the Kronstadt level point, and the Gause-Krüger projection. The implementation of this program is particularly difficult for Hungary since the old Hungarian series at comparable scales were based on the International (Hayford) ellipsoid, the Gellérthegy datum, the Adriatic tidal gauge leveling datum, and the stereographic projection. A new geodetic survey of Hungary was undertaken in 1953 to meet the USSR specifications, and completion of the first-order triangulation survey was announced in 1956. It is quite probable that recently published maps at 1:25,000 are drawn according to USSR specifications since by now sufficient geodetic data may have been obtained and the necessary conversion accomplished. The target date first set for the completion of the new 1:25,000 map series (about 1,330 sheets) was December 1959, but it is now considered to be December 1960. Insufficient personnel, complicated by the loss of many experienced workers, and the loss of production time during and immediately after the 1956 uprising may delay the program even longer. 25X1C [redacted] coverage to date is limited, extending only along the western borders of the country. Undoubtedly, the priority of this area was set in compliance with military requests as well as in recognition of the availability of earlier maps at

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25X1C 1:25,000 [redacted] 25X1C

[redacted] the quality of the 1:25,000 sheets completed by late 1956 is excellent. This evaluation is open to question, however, considering the general lack of geodetic data when the earlier sheets were published. [redacted] 25X1C the high quality of the map series may deteriorate if excessive pressures and unreasonable target dates are levied on the production personnel.

According to some estimates the entire triangulation survey (probably first- through fifth-order) will not be completed before 1959, if then. It is unlikely, therefore, that any sheets bearing a publication date of 1954 or earlier are based on the USSR specifications, since considerable lead-time is required to establish geodetic control and obtain pertinent data before topographic compilation can be started. Sheets from a pre-1954 map series at 1:25,000, which was based on older sheets revised from aerial photographs and some ground survey, may be mistaken for sheets from the current 1:25,000 series. The latter series was printed according to USSR specifications, whereas the earlier merely used Russian symbols. The implementation and completion of the map series at other scales depends upon the completion of the 1:25,000 series, since the largest scale has been given top priority. It is highly unlikely that even the target date of 1960 for the completion of all map series according to the USSR specifications presented at the Sofia Conference will be met.

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The most important of the civilian mapping programs is a project at 1:5,000 scheduled by the BGTV but currently held in abeyance. The 1:5,000 project, which is of tremendous magnitude, would provide a detailed and accurate basic map suitable for use in economic planning in all sectors of the economy. It would also satisfy some military needs and provide data for other maps at smaller scales. Coverage to date is spotty; areas completed include urban centers, industrial and mining sites, and regions of military importance. In the 4-year period 1952-56, however, only 6.5 percent of the country was mapped at 1:5,000; and, of the area covered, 60 to 65 percent was flat to rolling land. Geodetic data for the project did not include any data from the new BGTV triangulation survey being done primarily for the HTI. In early 1957, the highly valuable 1:5,000 program was dropped, and work was begun on a 1:10,000-scale project. Comments in professional articles about the low degree of proficiency among working personnel and the dubious accuracy of completed map sheets may have been responsible for abandoning the 1:5,000-scale mapping.

Recently, a number of tourist maps by the Cartographic Enterprise have become available to the public. They include (1) road maps and atlases at a scale of 1:600,000 and 1:400,000, respectively; (2) maps of upland areas (Mecsek, Bakony, Matra); and (3) city plans (Budapest, Pécs, Debrecen, Székeafehérvár, Szeged, and Eger). Hungarian cartographers have criticized the area maps published to date because of inaccuracies and omissions resulting from "exaggerated" security

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measures. Although the maps may be inaccurate in some respects, they are of value to United States intelligence agencies since the data presented can be used in conjunction with available intelligence reports.

Personnel and Cartographic Practices

The caliber of the cartographic personnel, which is extremely important for accurate production, probably is the weakest point in Hungarian cartography. This is generally conceded even though director and executive-staff positions are occupied by highly qualified individuals, some of whom held high academic positions before going into the government offices. Many are known for their contributions to cartographic or other professional scientific journals. [redacted] 25X1C

25X1C [redacted] prior to the uprising, heads of production units had engineering degrees and experience and were very capable men. Similarly, many of the supervisory personnel and those in technical or skilled positions have had enough academic training and practical experience to cope with mapping problems. Most cartographic and geodetic positions were and still are filled by individuals trained at the Technical University at Budapest and Sopron University, where the curriculums are heavily weighted with scientific courses at the expense of the humanities. In an attempt to retain high standards among personnel, training programs are maintained by the HTI, AFTH, and BGTV to orient and

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train new employees for their positions. On the working level, however, a dearth of well-trained, qualified cartographers and draftsmen dangerously weakens the whole personnel structure. This situation has been referred to in several articles that comment on requirements that exceed the capacity of the technicians, who are few in number and who lack proficiency.

Current cartographic practices in Hungary do not reflect any new techniques nor indicate the development of any new procedures. The Western innovation of plastic scribing, for instance, has not been introduced. Instruments and equipment used by and available to field and headquarters personnel include the latest transits, stereoplanigraphs, coordinatographs, multiplex machines, and photographic equipment of Hungarian, Swiss, and East German manufacture. A few USSR instruments have been available to the Hungarian mapping agencies, but Western products, such as Swiss instruments made by Wild, seem to be preferred. Reports made from first-hand observation, however, indicate that USSR personnel in their own mapping units had instruments of Soviet manufacture that appeared to be comparable to the best of Western products. Because Hungarian equipment is so inadequate, bottlenecks in production develop whenever one of the machines is out of order. Most of the paper and ink and many of the drafting instruments are imported from East Germany; but some paper is obtained from West Germany.

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Gaps in Intelligence

Hungarian cartographic information, such as map programs, finished topographic maps, and geodetic data is classified and strictly controlled. Despite the wealth of information obtained

25X1C

[redacted]

no individual or group of individuals could give the whole story on the cartographic situation in Hungary.

Gaps in geodetic information are (1) the geodetic datum point in Hungary and its geographic coordinates; (2) the correction factor for converting the older Hungarian geodetic data to the USSR geodetic system; (3) the location of the principal tie-in points with those of adjoining Satellite countries and the adjustments necessary to achieve surveys across borders; and (4) the correction factor for converting the USSR datum to the European geodetic datum. Unresolved questions about mapping include (1) the extent of currently completed topographic coverage at all scales and the scheduled completion dates for all series; (2) the status of the mapping programs at 1:5,000 and 1:10,000; (3) the quality of the recently finished map sheets; and (4) the extent to which aerial photographs are being used for mapping.

Information about the administrative structure of Hungarian mapping organizations needs to be filled in and brought up to date. Detailed information is lacking on the subordination of the mapping units within the government structure, as well as their responsibilities,

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functions, and duties. Information on the number of employees and their proficiency, and the development of new mapping techniques is also lacking. The amount and type of cartographic equipment used and its operational status is unknown. Until such information is available it is difficult to estimate how frequently technical bottlenecks are likely to occur and the resultant effect on map production.

Conclusion

The centralization of authority for mapping and geodesy in Hungary is a logical move in meeting current economic and military cartographic requirements. It allows program planning and the setting of priorities in accordance with Soviet military and Hungarian national needs and permits the consolidation of manpower and physical plants, thus reducing wasteful duplication of effort. The current emphasis on topographic mapping will eventually provide the USSR with standard-scale maps of Hungary made according to USSR specifications. Such consistent coverage is of great value for missile warfare and military planning as well as for the economic exploitation of the country. A major impediment to the accomplishment of all current mapping programs, however, is the lack of personnel on the working levels whose training and experience is commensurate with the programs undertaken. This situation may be corrected in time through adequate academic and on-the-job training. Given time, modern cartographic and geodetic equipment, and trained personnel, Hungarian cartography will meet the military needs of the USSR. (SECRET)

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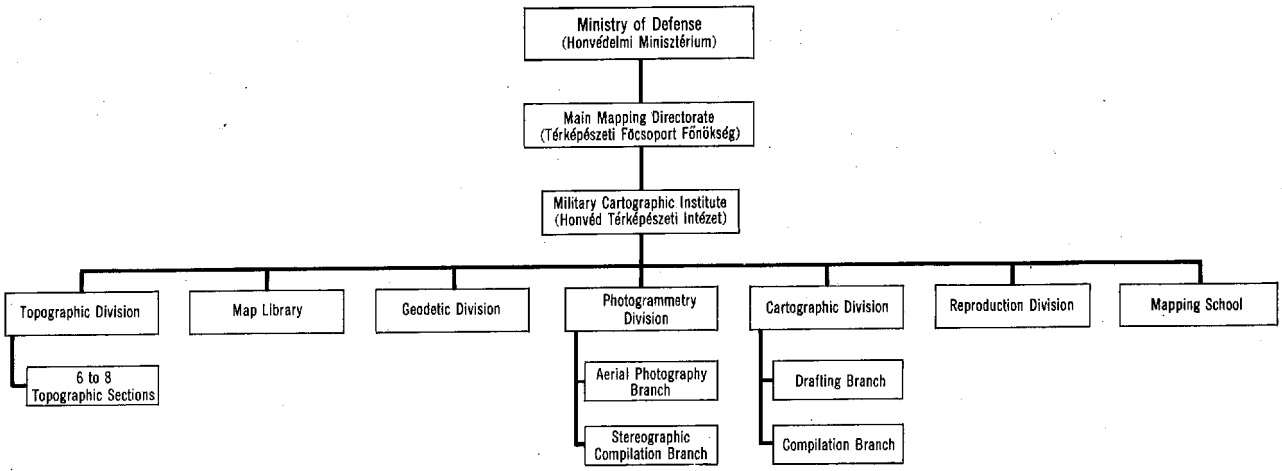
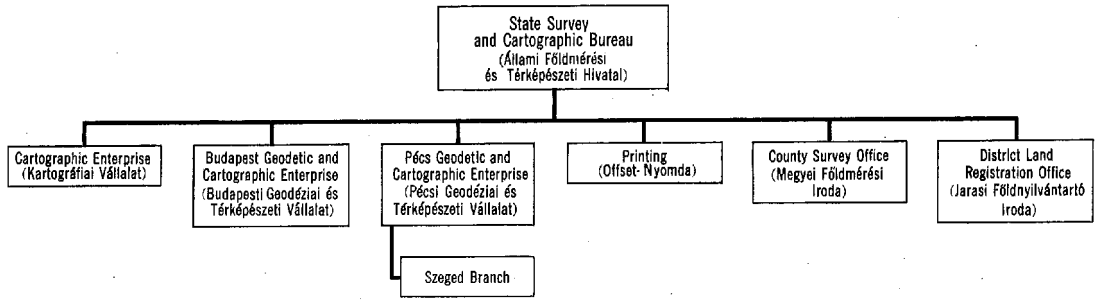
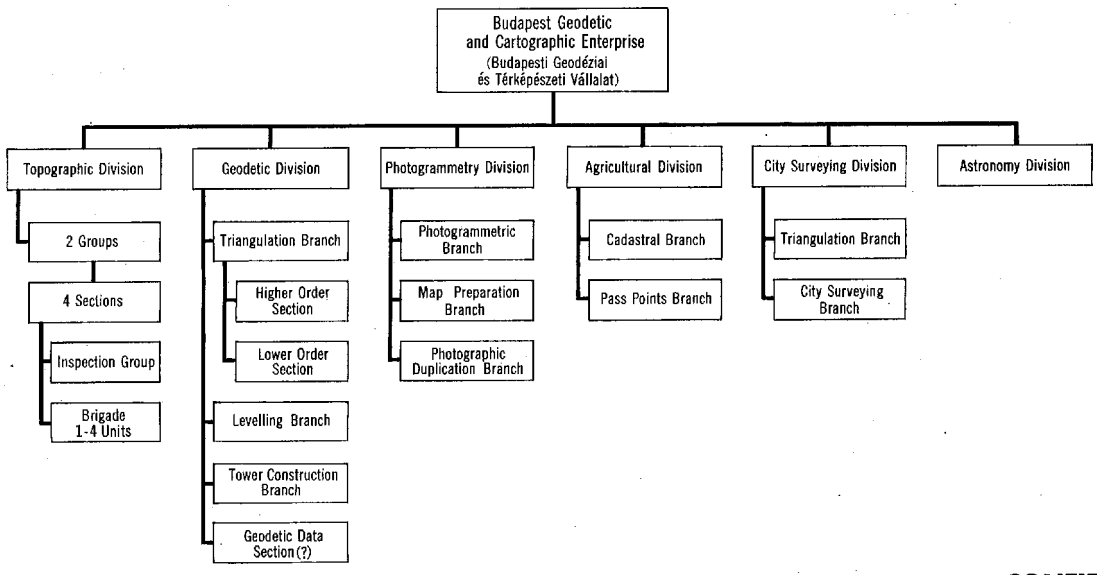
ORGANIZATION OF THREE MAJOR MAPPING AGENCIES







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RECENT MAPS FROM COMMUNIST CHINA

In recent years the number of maps released from Communist China has greatly increased. Concomitantly, cartographic techniques have been noticeably refined, and the quality of the data shown substantially improved. Until about 1954 most maps from mainland China were essentially reprints of older maps with limited amounts of new information added. Since then, however, the results of basic inventories and surveys needed for state planning have been increasingly reflected on Chinese Communist maps. Similarly, atlases received in the past have basically been reprints of pre-Communist editions. An entirely new atlas, however, was published in 1957 and includes base maps and several newly compiled special-subject maps. This atlas is not considered in this article but will be discussed separately in a later issue of this review.

Wall Maps

Small-scale wall maps from Communist China have been available periodically since 1950, but the information shown is primarily a generalized version of the data contained in atlases. Beginning in 1956, however, several very useful special-subject maps of wall-map size dealing with population distribution, transportation, and topography have become available.

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The results of the 1953 census appear on a map at 1:4,000,000, which shows, by isopleths, population density in 8 categories ranging from 1 or less to 600 or more persons per square kilometer (55565)*. Eight categories of cities over 20,000 population are indicated by symbols of graduated size. The map is well printed, the choice of colors pleasing, and, when spot-checked against larger-scale topographic maps, seems to be carefully compiled. This map is of special value to those analysts who are faced with problems of areal delineation in which locations of population concentrations and sparsely populated areas are of critical concern.

A recent transportation map (first edition, July 1957) provides a detailed picture of the road and rail networks of Communist China at 1:6,000,000 (27041)**. Although many other maps have shown the transportation network, this particular map is an improvement because most of the railroad stations are located and named. Apparently, all or nearly all existing motorable roads are shown and most important urban centers they serve are located and named. Most railroads and roads under construction are also indicated. The base information is limited to province boundaries and major streams in order to

*Throughout this report the numbers in parentheses and in the footnotes are Call Numbers of maps which may be obtained by calling extension 2596, the CIA Map Library.

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facilitate the inclusion of a vast number of place names; despite this, all localities in northern and eastern China may not be identified. A second edition of the map, at 1:8,000,000, was printed in late 1957 (104770). Except for its smaller scale, this map differs from the first edition only in the inclusion of some new and changed road alignments in western China.

In January 1958, a topographic map of China at 1:4,000,000 was issued under the auspices of the Academy of Science (Academia Sinica) through its Institute of Geography (27228)*. Preliminary examination of this map reveals its great superiority to existing maps at or near this scale. Contours are shown at 50, 200, and 500 meters; then at 500-meter intervals up to the 3,000-meter contour; and at 1,000-meter intervals in higher areas. Numerous spot elevations are given. With so few contours, the terrain can be shown only very roughly. An attempt has been made, however, to indicate by symbols three types of karst terrain in the highly dissected lands of southern and southwestern China and some of the more pronounced ravines that characterize the loess country of North China. Dune formations and sizable marsh and swamp areas are also shown. The hydrography is presented more accurately and in more detail than on previously available maps at the same scale. According to an explanatory note on the map jacket, streams are divided into four classes on the basis of volume of flow,

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but even a close examination of the map fails to reveal all of the classes mentioned. Limits of navigability for both steamships and small boats are indicated.

The note on the map jacket states that Soviet methods were used in compiling the map and that Soviet data were used for the northwestern part of Sinkiang Province. A comparison of this map with Soviet maps of comparable scale revcals a very close similarity in the cartographic treatment of terrain features for all of western China. The scale of the map obviously precludes its use for detailed study, but the amount of information and the high degree of reliability of the data make the map very useful for planning and reference purposes.

Maps From Periodicals

Although many Chinese Communist periodicals occasionally contain useful maps, most of the significant maps appear in periodicals issued by the Academy of Science through its Institute of Geography.

A monthly publication, Ti-li Chih-shih (Geographical Knowledge), usually includes one or more relatively brief articles on China, generally with accompanying map or maps. In general, these maps are at extremely small scales -- depicting only one or a very limited number of subjects -- and are useful primarily as diagrammatic presentations of data. One is a map of the distribution of forests at 1:23,000,000 that, despite its small scale, shows considerably more detail than many other forest maps at larger scales (104781).

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Some maps in Ti-li Chih-shih, however, are of relatively small areas, for example, the map of the Kuo-lo region of Tsinghai Province at the scale of 1:2,100,000 (104785). This map is of special value since it provides coverage for a little-known area that is of current interest because of reported Tibetan revolts in the vicinity. The map not only includes place names and shows base information such as routes, streams, and populated centers, but it also indicates land-use regions -- cultivated land, pasture, forest, and barren lands -- in fair detail. A third example of maps in Ti-li Chih-shih is one of Lanchow municipality at 1:260,000 that illustrates the areal growth of the city from 1941 through 1956 and gives the names of the current districts of the city (104797). The scale of the map is large enough to permit showing detailed alignments of railroads and roads, the bends of the Yellow River, and the location of several bridges. To anyone following developments in and around Lanchow, a key city of Northwest China, the map is particularly useful.

Ti-li Hsüeh-pao (Acta Geographica Sinica), the quarterly publication of the Institute of Geography, contains longer and more scholarly articles, generally based upon field work and usually with one or more original maps appended. A recent issue (Vol. 24, No. 1, 1958), for example, contained an article on the Nan-t'ung Special District in Kiangsu Province, the peninsula about 125 by 35 miles in extent that lies directly north of the mouth of the Yangtze. Four

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maps are included, all at a scale of about 1:500,000*. One is a detailed land-use map of which the most significant features are delineations of recently reclaimed land and land that will be reclaimed. The remaining three maps are extremely detailed population maps. One is a dot map with one dot for each 100 persons; the second map, utilizing hsiang (township) boundaries, shows population density by 7 categories according to hsiang statistics; and the third map, using the same 7 categories, depicts population density by isolines. The map using hsiang information is especially valuable because very few maps based on so small an administrative unit are available. A further value of these maps is that they cover a strategic area adjacent to Shanghai.

A third publication of the Institute of Geography, Ti-li Chi-k'an (A Collection of Geographic Articles), appears to be similar to Ti-li Hsüeh-pao, with fairly detailed articles and maps on relatively small areas. The maps and articles reflect Chinese concern with areas of probable future economic development in which there are problems of water and soil conservation and of land reclamation and other developmental problems.

Maps From Monographs

A series of monographs on economic geography issued under the auspices of the Institute of Geography is an extremely valuable source of special-subject maps. Only three of these monographs

*Land use, 111415; population shown by dots, 111416; population by hsiang, 111417; population shown by isolines, 111418.

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have been received to date, but each contains a large number of recent and significant maps.

The first of the series, the Economic Geography of the Inner Mongolia Autonomous Region, contains 17 maps based upon compilations of recent data. A set of 4 livestock maps showing the percentage of (1) sheep, (2) goats, (3) cattle, and (4) horses to the total livestock population for each of the hsien (county) and comparable administrative units is included (4 maps, 105340). Another map gives the per capita number of livestock for the same administrative units (105339); unfortunately, no map included gives the total number of livestock for each unit. One of the two general maps in the monograph delineates several types of agricultural regions (105338); and the other shows the distribution of industry with industrial cities classified by order of importance and type of industry (105342). The latter also indicates the location of individual mining and forestry enterprises. From these two maps, four regional maps have been compiled that combine the agricultural and industrial data of the general maps in a slightly more refined manner (4 maps, 105344). The monograph collection also includes the usual general maps of administrative divisions, climate, distribution of nationalities, population distribution, and communications*.

*Administration, 105334; climate, 105335; nationalities, 105336; population, 105337; communications, 105343.

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Perhaps the most valuable of the economic-geography series is the monograph on North China, a detailed study with 40 maps covering the provinces of Hopeh, Shansi, Shantung, and Honan*. Twelve of the maps are regional, of which the most significant appear to be those on the following topics: climate; distribution of coal and steel industries (coal mines are differentiated as mechanized or manually operated); the textile industry, including the location of cotton ginning plants; and distribution of farmland as a percentage of total land area (indicated by isopleths). The other regional maps include several with data expressed by hsien, which show double-cropping areas, distribution of irrigated land, and maps of wheat, cotton, corn, and millet given in percentages of the total crop acreages. These agricultural maps based on hsien statistics are particularly valuable even though the actual figures are not given**. Data are expressed by categories, commonly with ranges such as under 5, 5 to 10, 10 to 20, and so forth. These maps are the first since the publication more than 20 years ago of Buck's monumental study of agriculture***, however, that give a detailed picture of the agricultural patterns in one of the most important agricultural regions of China.

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*Regional maps include Call Numbers 104415 through 104425; Hopeh Province, 104426 through 104432; Shansi Province, 104433 through 104438; Shantung Province, 104439 through 104444; Honan Province, 104445 through 104449, and 104750 through 104753.

**Climate, 104415; coal and steel, 104417; textile industry, 104418; farmland distribution, 104419; double-cropping, 104424; irrigated land, 104425; wheat 104421; cotton, 104422; and corn, 104423.

***Buck, John Lossing. Land Utilization in China, University of Nanking, Shanghai, 1937.

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The remaining 28 maps deal with transportation, distribution of industry, and composition of crop acreages by agricultural areas, for each province of North China. In addition, there are appropriate special-subject maps for each province. The acreage maps give a good general impression of the relative amounts of land devoted to various crops, but reference must be made to the text to obtain exact percentage figures. The province industrial maps divide industrial cities into five classes or levels (although criteria for these categories are not provided) and show distribution of industry according to type and importance. Possibly the most significant map is one of Hopeh Province showing areas irrigated by well water and those suitable for well-water irrigation, areas irrigated by canal, and areas proposed for irrigation through utilization of Yellow River water (104427).

The Economic Geography of the Western Region of the Middle Yellow River, third in the series on economic geography, is a very detailed study of a relatively small area extending roughly from Lanchow to Pao-t'ou, cutting across provincial boundaries and including parts of the Inner Mongolia Autonomous Region and Kansu Province. Only eight maps are included, the most significant of which presents a general picture of the economic geography of the region (105848). It gives 7 categories of land use, the location of 16 types of minerals, and the location and type of industry. Although the general area map included at first glance appears to

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be of little value, it shows minor administrative boundaries in detail and includes about 400 place names (106003). Two useful population maps are also included. One is a dot map, with the smallest-sized dot representing 200 individuals (106006). This map is believed to be more reliable than that of Inner Mongolia (105337) for the area of overlap near Pao-t'ou. The second population map shows various categories of density on grid squares of 25 square kilometers (105849). The technique is effective and more accurate than the isopleth method in obtaining a fairly accurate quantitative portrayal of population density. The other maps are of landforms, soil types, waterways and irrigation systems, and dates of seeding and harvesting spring wheat (indicated by isolines)*. Although the data included on them are dated 1952 through 1954, these eight maps together with the text are indispensable for any detailed study of the Lanchow--Pao-t'ou region -- a region of considerable importance in future Chinese Communist planning.

Conclusion

From the type and quality of publications and maps released during recent years, it is apparent that Chinese Communist geographic scholarship has been making impressive progress. The wide variety of subject material covered and the evidence of careful compilation are encouraging. For certain topics and areas, dependence upon maps compiled prior to the Communist takeover, many of which are of dubious reliability, has been eliminated. (CONFIDENTIAL)

*Landforms, 106002; soils, 106001; waterways, 105847; wheat, 105846.

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GEOLOGICAL MAP OF THE SOVIET ARCTIC

A 4-sheet geological map* of the Soviet Arctic, accompanying a text, Geologiya Sovetskoy Arktiki (Geology of the Soviet Arctic), has recently become available to the intelligence community. The map is drawn on a conic equal interval projection at a scale of 1:2,500,000, and covers an area extending from the Polar Urals to Verkhoyanskiy Khrebet and from the Polar Circle to the Arctic Islands. An inset of Ostrov Vrangelya is provided at the scale of 1:1,500,000. The North European and Far Eastern portions of the Soviet Arctic are not included on the map since the text does not cover these areas.

When this Arctic map is compared with the 1956 edition of the Geologicheskaya Karta SSSR at 1:2,500,000, numerous differences are apparent. For the Noril'sk region the 1956 map shows more detail, but the Arctic map is the more detailed for most regions.

The portrayal of the geological formations in certain areas is completely different on the two maps. Ostrov Stolbovoy is shown on the Arctic map as composed of Lower Cretaceous sediments and on the map of the Soviet Union as Middle Paleozoic, Quaternary, and Cretaceous

*Geologicheskaya Karta Sovetskoy Arktiki (Geological Map of the Soviet Arctic), 1:2,500,000, 1957, in Vol. 81 of Trudy Nauchno-Issledovatel'skogo Instituta Geologii Arktiki (Works of the Scientific Research Institute of Geology of the Arctic), 1957, published by the Ministeratvo Geologii i Okhrany Nedr SSSR (Ministry of Geology and Conservation of Natural Resources of the USSR). CIA Map Library Call No. 108501.

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granite intrusions; the deposits east of Noril'sk are shown as Cambrian, Ordovician, and Silurian on the Arctic map and as Upper Quaternary on the map of the Soviet Union.

Outlines of some of the islands are given in more detail on the Arctic map than on any other available physical maps. Zemlya Bunge -- the low, sandy expanse between Ostrov Faddeyevskiy and Ostrov Kotel'nyy in the Novosibirskiye Ostrova -- is drawn with a detailed, solid outline rather than a dashed generalized boundary as on most maps. For ice-free areas on Zemlya Frantsa-Iosifa, however, the Arctic map is misleading since it shows Ostrov Salisbyuri, Ostrov Tsiglera, and many other islands with no ice caps, when in reality they are ice-covered -- the symbol having been omitted merely to show the known underlying geological composition more clearly.

The Geological Map of the Soviet Arctic is useful for general reference as well as specialized geological work since it includes many populated places, some of which have never before appeared on any available map. Shumilikha and Rogacheva are new names on Novaya Zemlya; and, in the Northern Urals, Polyarnyy Ural appears for the first time. Several place names shown on older maps have been given new suffixes that indicate a change in size or administrative character. For example, Pakhtusova is changed to Pakhtusovo, and Elets to Eletskiy. The name of the settlement of Kozhevnikovo in Khatangskiy Zaliv has been changed to Il'ya.

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Because it shows the detailed configuration of the Arctic islands and locates a greater number of populated places than are found on other available maps, as well as providing geological data, the Geological Map of the Soviet Arctic is a timely addition to existing information on this strategic part of the Soviet Union. (CONFIDENTIAL)

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ADMINISTRATIVE DIVISIONS OF BRITISH GUIANA

An official map* with manuscript additions, recently received from Georgetown, the capital of British Guiana, clarifies the delineation of the boundaries of the nine internal administrative divisions, which to date have not been printed on any available official map of the colony.

The nine administrative districts are: East Berbice, West Berbice, East Demerara, West Demerara, Essequibo Islands, Essequibo, North West, Mazaruni-Potaro, and Rupununi. Each has a district commissioner, those for the coastal districts functioning under the Department of Local Government and those for the inland districts under the Department of the Interior in Georgetown.

Many maps produced by both British Guianese and British official mapping agencies show the colony as being divided into three "counties" -- Essequibo, Demerara, and Berbice. These divisions, which extend inland from the coast roughly encompassing the river

*Map of British Guiana, at 1:1,000,000, Department of Lands and Mines, Georgetown, British Guiana, 1947 (reprinted by the Directorate of Colonial Surveys, 1955) with manuscript additions; available for reference at the CIA Map Library, Call No. 111316. Available at the Map Library for retention is a map based on the above: British Guiana, 1:4,000,000, 1958, Map 26554, which shows these boundaries at smaller scale. Official verbal descriptions of the district boundaries are included in CIA-RR-G/E-86, Internal Administrative Divisions of British Guiana, August 1958.

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basins of the same names, bear no relationship to the administrative districts. Much confusion has resulted from the inclusion of these "counties" on maps of British Guiana since they have no administrative status or legal boundaries and are of historical significance only. (UNCLASSIFIED)

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TRAVEL RESTRICTIONS IN HUNGARY

Since the 1947 coup, the Communist government in Hungary has imposed various travel restrictions upon Hungarians and most foreign diplomatic personnel. During the pro-Stalinist regime of Matyas Rakosi prior to 1953, travel by members of foreign missions was severely restricted. "Free" travel was limited to a radius of 30 kilometers from the bridgehead at Lanc Hid in Budapest, excluding Csepel Island, the center of Hungarian heavy industry. Travel restrictions were liberalized in mid-1953 shortly after the innovation of the "new course" era under former premier Imre Nagy. Extensive areas of the country were opened to travel with the provision that a 24-hour advance notice, including a declaration of route, be forwarded to the Foreign Ministry. Even so, certain areas were forbidden -- a 30-kilometer zone adjacent to the borders with Austria and Yugoslavia and a small part of Rumania, several counties in the northeast and west, and Csepel Island in Budapest. Western diplomatic personnel were thus barred from observing new industrial and military construction sites and garrison cities, such as Miskolc, Ózd, Salgótarján, Várpalota, Veszprém, Pápa (site of a USSR air base), and the USSR training area near Hajmáskér. After properly notifying the Foreign Ministry, however, they were allowed to cross the restricted border zone in order to reach Vienna, Belgrade, or Bucharest by rail or road.

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In July 1956, the declaration permitting travel into certain areas was rescinded, but later a more important Hungarian circular note dated 20 October 1956 permitted unrestricted travel throughout the country. Unfortunately, the uprising and the ensuing internal situation prevented Western diplomats the advantage of this unprecedented freedom. In early March 1957, two Americans traveled into that part of the former border zone adjacent to Austria, and were the first Americans to visit Köszeg and Szombathely (garrison towns with USSR troops) since the establishment of travel restrictions in January 1951. The travelers were stopped by local security police who informed them that they were in a restricted zone, although the Hungarian Government had not informed the American Legation that the area was restricted.

An unexplained delay occurred between the reestablishment of the border controls to prevent illegal emigration and the notification of foreign diplomatic personnel about the restrictions on travel. A Hungarian note dated 30 December 1957, supposedly amending the 20 October 1956 note, reestablished a restricted zone 25 kilometers wide along the borders with Austria and Yugoslavia. If the imposed restriction was meant to prevent observation of strategic or military areas within the zone, the December note was incongruous since it established five new frontier-crossing points for road and/or rail traffic in the zone. The cities of Sopron, Köszeg, and Szombathely -- all military centers -- were open to observation by travelers

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transiting the restricted zone to reach crossing points near Sopron,

25X1C Kőszeg, or Szentgotthárd (see Map 27305). [redacted] who were lost in Szombathely for a short time had an opportunity to observe large sections of the city before the local police stopped them and reoriented them.

A Hungarian Foreign Ministry note (No. 5/1/33-1/58) dated 11 August 1958 delimits the currently restricted border zone, and in effect, substantially increases the area that can be visited legally. Obviously, the regime is concerned about unrestricted travel toward the West since the new restricted zone is only along the Austrian and Yugoslavian borders, not along the Satellite borders to the north and east. No major industrial or military areas that Western observers might want to see are included in the zone; and investigation has not confirmed several reports of a guided-missile site within the restricted area. Outside the restricted zone also are the cities of Szeged, Nagyatád, Nagykanizsa, Szombathely, and Mosonmagyaróvár. The most important economic activity within the zone is the exploitation of the Lovászi oilfields. Since neither the December 1957 note reestablishing the border zone nor the August 1958 note revising it interferes seriously with travel by members of foreign diplomatic missions, it appears certain that the restrictions are an internal measure, intended primarily to prevent Hungarians from escaping to the West. (CONFIDENTIAL)

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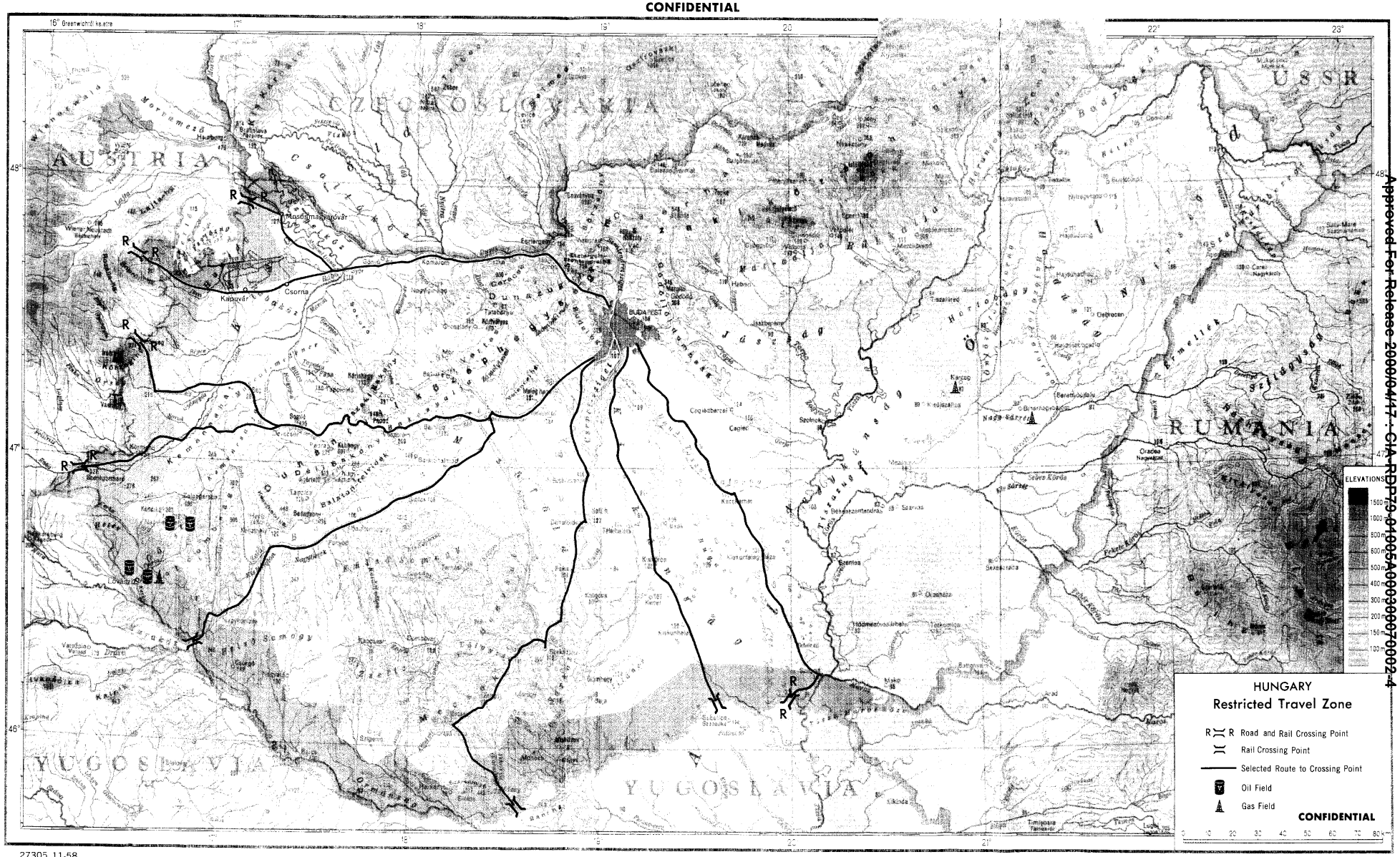

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